

University of Wollongong Research Online

Faculty of Commerce - Papers (Archive)

Faculty of Business and Law

1-1-2006

Ascending Mount Kosciusko: An Exploration of Motivational Patterns

Tracey Dickson

University of Wollongong, tdickson@uow.edu.au

Sara Dolnicar

University of Wollongong, s.dolnicar@uq.edu.au

Follow this and additional works at: <https://ro.uow.edu.au/commpapers>



Part of the [Business Commons](#), and the [Social and Behavioral Sciences Commons](#)

Recommended Citation

Dickson, Tracey and Dolnicar, Sara: Ascending Mount Kosciusko: An Exploration of Motivational Patterns 2006.

<https://ro.uow.edu.au/commpapers/75>

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

Ascending Mount Kosciuszko: An Exploration of Motivational Patterns

Abstract

This paper explores what, if any, usable market segments exist within those tourists visiting Mt Kosciuszko over the Easter period based upon their rating of a set of motivations. An assumption that might be made about visitors to Mt Kosciuszko is that their prime motivation was to ascend the summit of the highest point in Australia, however what this paper highlights is the wide range of motivations that inspire people to be on Mt Kosciuszko to visit and to return to the summit. This paper draws on previous research of visitors Mt Kosciuszko, investigates systematic motivational patterns among them and the association of such psychographic sub-groups of tourist with different wilderness perceptions to better understand those tourists visiting the Mt Kosciuszko area in order to assist tourism providers and land managers.

Keywords

Tourism, wilderness, market segmentation, motivations

Disciplines

Business | Social and Behavioral Sciences

Publication Details

this article was originally published as: Dickson, TJ & Dolnicar, S, Ascending Mount Kosciuszko: An Exploration of Motivational Patterns, CD Proceedings of the 15th International Research Conference of the Council for Australian University Tourism and Hospitality Education (CAUTHE).

ASCENDING MT KOSCIUSZKO:
AN EXPLORATION OF MOTIVATIONAL PATTERNS

Tracey J Dickson*
Research Fellow
Centre for Tourism Research
University of Canberra ACT 2601 Australia
Telephone: (02) 6201 2465
Tracey.Dickson@canberra.edu.au

Sara Dolnicar*
School of Management & Marketing
marketing research innovation centre (mric)
University of Wollongong
Northfields Ave, Wollongong, 2522 NSW, Australia
Telephone: (02) 4221 3862
sara_dolnicar@uow.edu.au

*Authors are listed in alphabetical order.

CLIMBING MT KOSCIUSZKO: AN EXPLORATION OF MOTIVATIONAL PATTERNS

ABSTRACT

This paper explores what, if any, usable market segments exist within those tourists visiting Mt Kosciuszko over the Easter period based upon their rating of a set of motivations. An assumption that might be made about visitors to Mt Kosciuszko is that their prime motivation was to ascend the summit of the highest point in Australia, however what this paper highlights is the wide range of motivations that inspire people to be on Mt Kosciuszko to visit and to return to the summit. This paper draws on previous research of visitors Mt Kosciuszko, investigates systematic motivational patterns among them and the association of such psychographic sub-groups of tourist with different wilderness perceptions to better understand those tourists visiting the Mt Kosciuszko area in order to assist tourism providers and land managers.

Keywords: Tourism, wilderness, market segmentation, motivations

INTRODUCTION

Mt Kosciuszko is the highest point of Australia and may be ascended by most people in less than a day during non-winter periods. Mt Kosciuszko has great appeal for many people travelling from city and urban areas which may be in part due to its iconic nature, but also its accessibility and beauty. During the warmer months the Mt Kosciuszko alpine area is a major ecotourism destination with more than 20,000 visitors annually enjoying the walk to the summit (Worboys & Pickering, 2002). Tourism to the Snowy Mountains region was estimated to generate \$150 million of gross state product in 2001, which was responsible for 2,300 jobs, in full-time-equivalent terms. Up to 35% of this activity is attributable to non-winter visitation (Mules, Faulks, Stoeckl & Cegielski, 2002). Fifty-seven per cent of those non-winter visitors are estimated to travel from urban areas such as Sydney and Canberra/ACT (Johnston & Growcock, 2005).

From a survey of visitors to Mt Kosciuszko over Easter 2005 it was found that the most important motivators for visiting Mt Kosciuszko were to: *enjoy the outdoors*, *scenic beauty*, *climbing Mt Kosciuszko*, *undertake physical exercise* and *to relax* (Dickson, in review). However this list does not sufficiently differentiate between sub-groups within the total visitors to Mt Kosciuszko to be of value to tourism operators, land managers and service providers. This paper builds upon this previous research to examine what different segments in the tourism market may be drawn from the data and thus how to maximise satisfaction levels of tourists as well as identifying future research foci to further develop the knowledge of visitors to Mt Kosciuszko.

BACKGROUND

The initial research, which has lead to this market segmentation analysis in part, sought to explore people's wilderness experiences in and around Mt Kosciuszko. To appreciate where this research was located it is advantageous to understand the term wilderness, delve into previous research on wilderness experiences, explore motivation theories, as well as explore some of the history of the area and the national park in which Mt Kosciuszko is located. At 2228 metres Mt Kosciuszko is the highest mountain on the continent of Australia. To reach the summit most people could leave their car and be standing on the summit within half a day by using one of two main access routes: 1) a chairlift ride from the ski resort of Thredbo brings participants to within 6km of the summit, or 2) from Charlottes Pass walking 9km along a closed service road to the summit. Easter is the peak period for visiting Mt Kosciuszko with

reported visitor numbers exceeding 2,500 people per day on both Easter Saturday and Easter Sunday (Johnston & Growcock, 2005).

Wilderness

Wilderness may broadly be categorised as: pristine phenomenal, legislated or perceptual. The definitions may reflect the relative importance given to the interplay of scientific and aesthetic qualities of environments as determined and constructed by those people in positions of power and influence such as academics, lobbyists scientists, conservationists and land managers (O'Neill, 2002):

1. Pristine wilderness may be defined as 'areas of pristine ecology that are completely free of any human disturbance' (Higham, 1998, p. 29).
2. Phenomenal wilderness is a less limited definition where wilderness is defined as being where 'the imprint of humanity is largely unnoticeable' (Higham, 1998, p. 29).
3. Legislation provides a third approach to defining wilderness and can vary depending upon the political system. With three tiers of government Australia presents a challenge to those seeking to understand legislated wilderness areas. Each state or territory can have its own mix of legislation and bureaucracy setting the agenda for the management and usage of land. In New South Wales (NSW) where Kosciuszko National Park (KNP) is located, the relevant pieces of legislation include the *National Parks and Wildlife Act 1974* and *Wilderness Act 1987*. The National Parks and Wildlife Service of New South Wales (NPWS) working under both the *National Parks and Wildlife Act 1974* and *Wilderness Act 1987* defines wilderness as 'a large natural area of land that, together with its native plant and animal communities, is essentially unchanged by human nature' (National Parks & Wildlife Service, 1995, p. 1). In KNP the nine declared wilderness areas under the *Wilderness Act 1987* account for approximately 50% of the total area of the park (Department of Environment & Conservation, 2004).
4. Perceptual wilderness acknowledges that wilderness is very much in the 'eye of the beholder'. For each person their experience and perception of what is wilderness will be filtered through their individual life experiences which may mean that their perceptions of wilderness may differ greatly from what may be legislated or designated as wilderness by others (Higham, Kearsley & Kliskey, 2000).

Wilderness Perceptions and Experiences

There is a significant body of research, particularly from New Zealand and the United States, on visitor experiences and wilderness perceptions. However there is no comparable work for visitors to Mt Kosciuszko, with recent studies around Mt Kosciuszko focusing on environmental impacts and visitor management issues (e.g. Worboys & Pickering, 2002) and visitor numbers and characteristics (e.g. Johnston & Growcock, 2005).

The New Zealand research has included investigation of wilderness perceptions and visitor experiences (e.g. Cessford & Dingwall, 2001; Higham, 1997; Higham, Kearsley & Kliskey, 2000; Kearsley, Coughlan, Higham, Higham & Thyne, 1998; Kearsley, 2000). The US research draws on an a long history of outdoor recreation research with recent examples of wilderness experience research in the US include Borrie & Roggenbuck (2001), Dawson & Watson (2000), Lawson & Manning (2002), Stewart & Cole (2001), Watson (2000) and Watson (2004).

The existing research has covered many contexts highlighting the diversity of visitors' experiences and views of wilderness and is succinctly summarised by Kearsley:

...an essential part of the value of wilderness to the individual lies in the emotions and state of mind that are stirred in that person by the wilderness experience. People themselves experience wilderness in many different settings, not simply formally designated Wilderness Area (Kearsley, 2000, p79)

Motivation Theories

Recreation and leisure theory suggests that motivations to participate in recreation activities may be categorised as physical, social, psychological and emotional, intellectual and spiritual (McLean, Hurd & Rogers, 2005). Participation in activities because of physical motivators may have a positive effect upon physical health and development while other activities may appeal to those who are interested in the social interaction and relationships that can develop. Psychological motivators may be about relieving stress and relaxation while emotional, intellectual and spiritual motivators may see people pursuing activities where learning is achieved or where personal renewal or enjoyment of 'God's great temple', i.e. the outdoors (McLean et al., 2005, p. 129). Another perspective is to consider what the intrinsic and extrinsic reasons are for people participating in leisure activities (Veal & Lynch, 2001). The relative importance of each motivating factor may vary across a range of individual characteristics such as age, gender, values, goals and lifestyles (Edginton, Jordan, DeGraff, & Edginton, 1998). In tourism literature as early as 1977 Dann was suggesting that the two main factors influencing travel motivations are: 'push factors which make you want to travel, and pull factors which affect where and how you travel' (Blamey & Braithwaite, 1997, p. 29). The motivators referred to in this research (Table 1) which draws upon previous motivation research, reflects the variety of motivating factors discussed here.

Kosciuszko National Park

Kosciuszko National Park (KNP), a 690,000 hectare park, is the largest national park in the state of New South Wales. KNP incorporates the major alpine areas in Australia including the highest point in Australia, Mt Kosciuszko (Fitzherbert & Egan, 1998) named by explorer Paul Strezlecki after the Polish adventurer Tadeusz Kosciuszko in 1840. KNP is situated about 500km south of Sydney and a similar distance north of Melbourne and about 180km south of the nation's capital, Canberra. In total the populations (urban and rural) in and around these three cities account for approximately 50% of Australia's population of 20 million.

The history of KNP has evolved from pre-European settlement, through grazing, tourism and electricity. The aboriginal used the area prior to European occupation for ceremonial purposes and for catching Bogong Moths over summer. European use in the 1800s and early 1900s was for summer grazing of cattle leading until becoming a national park in 1967. In the early 1900s tourism developed with the building of The Hotel Kosciuszko at Diggers Creek in 1906 and The Chalet at Charlottes Pass in 1931. In the 1950s and 1960s the development of the Snowy Mountains Hydroelectric Scheme resulted in the drilling of numerous tunnels through the mountains and the damming of a number of rivers. Today, KNP is possibly best known as a winter destination where thousands of people enjoy the four snowsports resorts of Perisher Blue, Thredbo, Charlottes Pass and Mt Selwyn, though gradually there have been an increasing number of visitors over the warmer months (Department of Environment & Conservation, 2004; Independent Scientific Committee, 2002; Worboys & Pickering, 2002; Young, 2000).

AIM AND PURPOSE OF THIS STUDY

It is known from previous exploratory analysis of this data what motivates tourists to visit Mt Kosciuszko: *enjoying the outdoors and scenic beauty, climbing Mt Kosciuszko, undertaking physical exercise and relaxing* (Dickson, in review). However this list does not sufficiently differentiate between potential sub-groups of visitors who might have very different reasons to climb Mt Kosciuszko and might have to be communicated with in different ways. It could well be that sub-segments exist that are not at all motivated by these main reasons but perceive other benefits as main drivers.

This paper builds upon this previous research to examine whether managerially useful segments can be found among tourists visiting Mt Kosciuszko in order to gain more insight into different driving forces for different tourist. This will be of assistance to tourism providers to better meet the needs of current tourists through focusing and/or expanding their suite of products and services, for land managers to better target their information (including interpretative information) and plan for service and infrastructure development as well as regional developers and tourism marketing organisations to explore market segments under, or not, represented in this study.

In addition, a theoretical contribution to the research into perceptual wilderness is made by investigating whether sub-segments of the market have significantly different perceptions of wilderness. This study design is particularly well suited to investigate this question as all respondents have experienced the same stimulus (Mt Kosciuszko) within a four-day period; any difference would consequently represent differences in perceptual wilderness.

METHODS

The questionnaire used was adapted from Kearsley, Coughlan et al. (1998) survey of New Zealand backcountry users to reflect the language, facilities and potential users of people in the Mt Kosciuszko area over Easter 2005. For this research the Easter period (late March) on the summit of Mt Kosciuszko was chosen deliberately to contrast with the New Zealand study as Easter is one of the peak visitor periods to the summit with visitor numbers having the potential to reach 2,500-3,000 per day (Johnston & Growcock, 2005). The area surrounding the summit and along the main access routes are outside declared wilderness areas and when combined with the expected visitor numbers and the level of development may lead people, including the author, to conclude that this area was not consider 'wilderness'.

A total of 542 people were surveyed over the four-day period¹ with questionnaires mostly distributed on the summit of Mt Kosciuszko to coincide with the estimated arrival of walkers from Thredbo via the Crackenback chairlift (Summer operating hours: 8.30 a.m-4.30 p.m). Predominantly convenience sampling was used though this was influenced by seeking responses from a range of people across a range of dimensions such as age, group size, gender, our perceptions of their experience, the equipment they carried and their mode of transport and nationality.

To facilitate completion of the questionnaires clip board and pens were provided with up to 15 clipboards in use at any one time. Refusals were minimal, though not recorded. The summit area was chosen based on the chief investigator's knowledge that many people who ascended the summit would stop, take a break, eat and enjoy the view. Three people

¹ The questionnaire was developed and the data collected by Tracey Dickson.

distributed questionnaires on Friday, Saturday and Sunday, with two on Monday. All data was entered into an Excel spreadsheet and analysed using SPSS.

In summary, of the 542 respondents, 49% were female, 66% were employed full time, 63% were in professional or management positions and 64% held undergraduate or postgraduate qualifications. More than 60% had travelled in excess of 4 hours from home to begin the walk to the summit, with 40% travelling from Sydney (on average a 5 hour drive). The timing of the initial data collection over the Easter long-weekend will significantly influence this profile, a time when many workers take the opportunity to get away.

The investigation of motivational patterns is based on a question on motivations for climbing Mt Kosciuszko and was undertaken using cluster analysis. The question, based upon Kearsley, Coughlan et al. (1998), was 'The following have been offered as reasons for participating in hiking. Use the following scale to rate your reasons for visiting this track based on your level of importance to you today'. Respondents used a 5 point Likert Scale from 1= 'Not important at All' to 5= 'Extremely Important' to rate the level of importance of 13 motivators (Table 1Table 4).

**Table 1:
Motivators for Hiking**

a. To experience the solitude of being with no-one but my own group
b. To meet new people and make friends
c. To face the challenges of nature
d. Scenic beauty/naturalness (views, mountains, rivers)
e. To achieve personal goals
f. To climb Mt Kosciuszko
g. To learn about Australian plants and wildlife
h. To undertake physical exercise
i. To encounter wilderness/untouched nature
j. For a totally new and different experience
j. Relax with family, friends or partner
l. To get away from life's pressures
m. To enjoy the outdoors

Based on the sample size of 524, nine binary variables can be safely used to construct clusters (Formann, 1984) given that no prior assumptions with respect to the data structure exist. Because the questionnaire contained 13 ordinal questions on the motivations for climbing Mt Kosciuszko, four of them had to be eliminated to assure the appropriate dimensionality of data given the sample size and the lack of prior knowledge about the data structure and the data was recoded into binary format to avoid making inappropriate assumptions about the data as, for instance, equidistant intervals between scale options or identical interpretations of the scale points and reduce potential cross-cultural response styles (Cronbach, 1950; Kampen & Swyngedouw, 2000; Dolnicar, 2002). In order to determine which nine variables should be used, principal component analysis was conducted.

The procedure taken in analysis included the following steps: (1) factor analysis to evaluate which items can be seen as measuring the same construct in order to be able to reduce the number of variables for clustering, (2) stability analysis of clustering solutions for a number of different numbers of cluster in order to be able to select the most suited number of clusters, (3) respondents were clustered using a neural network algorithm, (4) the resulting segments were described / validated using additional available information.

RESULTS

Three factor components were found to explain 45 percent of the variance. The loadings of the Varimax rotated matrix are provided in Table 2. As can be seen *enjoying the outdoors, relaxing, getting away from life's pressures, enjoying the scenic beauty and undertaking physical exercise* loaded highly on component 1. *Meeting new people, learning about Fauna and Flora, enjoying the solitude, facing challenges and encountering wilderness* load on component 2 and finally *climbing Mt Kosciuszko, achieving personal goals and having new experiences* load on component 3. Nine variables for the investigation of differences in motivational patterns are selected as given in column five in Table 1. The highest loading variables of each factor are chosen, the lowest loading one or two variables are excluded. This procedure is chosen in order to assure that potentially highly discriminating variables are not eliminated (Frochot & Morrison, 2000).

Table 2:
Rotated principal components loadings matrix

	Component 1	Component 2	Component 3	SELECTED
Enjoy Outdoors	0.70	0.04	0.16	*
Relax	0.68	0.02	-0.04	*
Get Away	0.65	0.15	0.09	*
Scenic Beauty	0.64	0.09	0.01	*
Exercise	0.39	0.18	0.23	
Meet New People	-0.09	0.71	-0.07	*
Learn Flora/Fauna	0.12	0.62	0.06	*
Solitude	0.32	0.55	0.07	*
Face Challenges	0.07	0.50	0.42	
Encounter Wilderness	0.35	0.46	0.22	
Climb Mt Kosciuszko	0.05	-0.15	0.78	*
Personal Goals	0.02	0.13	0.75	*
New Experience	0.21	0.25	0.53	

The remaining nine variables are used to group the tourists into groups of motivational patterns. Following the recommendations of Dolnicar and Leisch (2001) the data structure was first investigated before the grouping task was actually undertaken. Structure was evaluated on the basis of the stability of repeated findings. Fifty repetitions of grouping computations were undertaken for cluster numbers from two to ten. Only the stability levels of the two and three cluster solution were significantly higher than the remaining groupings. However, these two groupings were largely characterised by grouping tourists who tended to agree and those who tended to disagree into separate segments. For this reason, the task of identifying naturally existing groups was abandoned and the recommendations by Mazanec et al. (1997) and Wedel and Kamakura (1998, p.5) were followed: "...market segmentation is a theoretical marketing concept involving artificial groupings of consumers constructed to help managers design and target their strategies." Consequently, a constructive clustering strategy (Dolnicar & Leisch, 2001) was adopted. Six segments appeared to offer the most interesting solution from a managerial perspective. The segments are reasonably sized and demonstrate distinctly different motivational patterns.

Topology-representing networks (Martinetz & Schulten, 1994) were used to group the respondents into the six motivational groups. This algorithm was chosen because it outperformed other partitioning algorithms in extensive Monte-Carlo simulation studies using a set of artificial data sets modelled after typical empirical tourism data (Buchta et al, 1997)

Furthermore the differences of the constructed motivational groups are evaluated with respect to other pieces of information. As all available background variables are of ordinal or

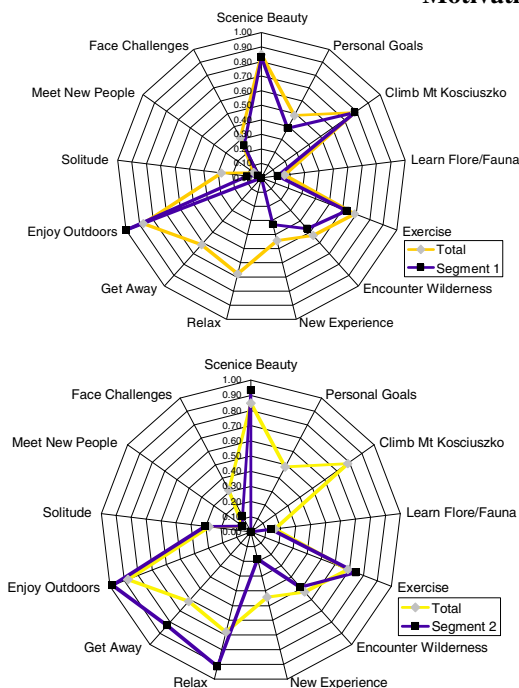
categorical nature, Chi-squared test were used to assess significance. Given that multiple tests were computed based on the same data set, Bonferroni-corrections were undertaken.

No differences between these motivational segments can be detected with respect to the modes of travel (hiking or mountain biking), the timing of decision, the tracks hiked, the equipment carried on the hike, the number of people they expected to meet on their hike, the intention to go elsewhere next time because of high levels of crowdedness, the strategies used to avoid other people, the needs for visitor management, the overall feeling of crowdedness, the factors spoiling the overall enjoyment, age and gender.

A number of variables, however, did significantly discriminate between the motivational groups. The last column in Table 2 provides the Bonferroni-corrected p-values, the column before that the original p-values emerging from the Chi-squared tests. Only variables that are significant at the 5% level based after Bonferroni-correction are included in the table and described below.

The resulting motivational patterns are provided in Figure 1. The black line indicates the percentage of respondents within each group of respondents who share the same motivational pattern. The light grey line indicates the total sample average motivational pattern. Each motivational group is therefore characterised by the differences between the black and the grey line in the profile chart. A brief description of each segment is provided next to the chart.

Figure 1:
Motivational segments



Segment 1: 'Outdoor Lovers' n=70

Highest motive: *enjoy outdoors*

Lowest motives: *get away* and *relax*

Lower than average on *get away* and *relax*

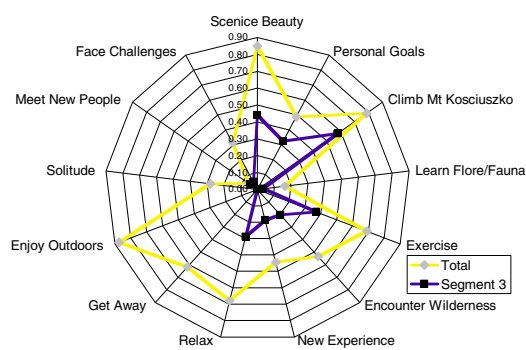
Segment 2: 'Along for the Ride' n=59

Highest motive: *enjoy outdoors*

Lowest motive: *climb Mt Kosciuszko* and *personal goals*

Higher than average on *enjoy outdoors*, *get away* and *relax*

Lower than average on *personal goals*, *climb Mt Kosciuszko* and *new experiences*

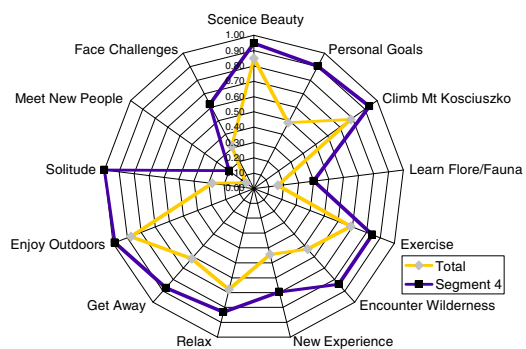


Segment 3: 'Unmotivated' n=59

Highest Motive: *climb Mt Kosciuszko*
 Lowest motives: *get away, enjoy outdoors* and *relax*

Lower than average responses across the board

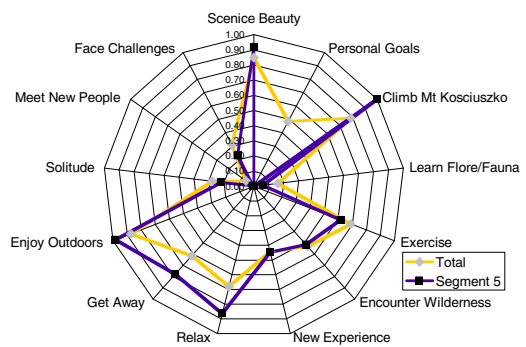
Warning: This segment could represent a response style.



Segment 4: 'Passionate Soloists' n=95

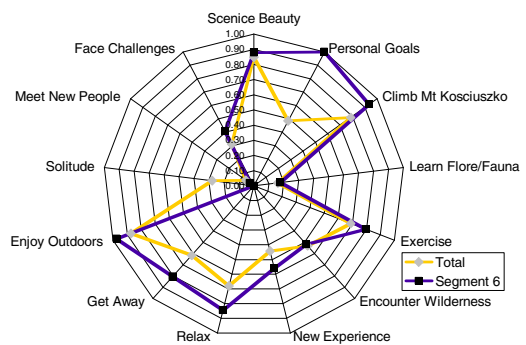
Highest motive: *solitude*
 Lowest motive: *meet new people*
 Higher than average responses across the board

Warning: This segment could represent a response style.



Segment 5: 'Hedonists' n=118

Highest motive: *enjoy the outdoors*
 Lowest motive: *personal goals*
 Higher than average on *climb Mt Kosciuszko*, *get away* and *relax*
 Lower than average on *personal goals*



Segment 6: 'Personal Achievers' n=123

Highest motive: *personal goals*
 Lowest motive: *solitude*
 Higher than average on *personal goals*, *enjoy outdoors*, *get away* and *relax*
 Lower than average on *solitude*

Segment 1 had 71% who were experiencing the track for the first time. Of these 57% worked full time and 21% were students. This segment accounted for 41% of all retirees and 30% of all students in the original study. Overall they had a lower than average *perception of the area as wilderness* with the lowest levels of satisfaction for completely achieving the motivators of: relaxing (15%), getting away (16%) and solitude (3%).

In contrast Segment 2 had only 34% who were experiencing the track for the first time, 90% of this segment were employed (81% full time and 9% part-time). This segment had

the highest number who indicated that that they did not perceive the area as wilderness at all (19%). This segment had the lowest levels of satisfaction for achieving the motivators of: personal goals (25%), climbing Mt Kosciuszko (46%), encountering wilderness (13%), new or different experiences (9%) and facing challenges (7%).

Segment 3 had 56% who were experiencing the track for the first time, with 54% in full time employment and 21% who were students. While there are lower than average responses across the board this may be confounded by the response style (i.e. scale of 1 to 5) and should not be over-interpreted, the one area where this segment indicated the lowest level of satisfaction with the achievement of their motivators was with enjoying outdoors (35%).

Segment 4 had 55% who were experiencing the track for this first time, with 90% in employment (68% fulltime and 22% part-time). This segment had the highest number of people who perceived the area as pure wilderness (15%). In contrast to Segment 3 this segment had higher than average responses across the board which again may have been confounded by the response style. In addition this segment also had the highest satisfaction levels for achieving the motivators of: personal goals (66%), climbing Mt Kosciuszko (87%), and getting away (56%).

Segment 5 had 69% who were experiencing the track for the first time, and 84% in employment (77% fulltime and 7% part-time). This segment had the lowest satisfaction with completely achieving the motivator of learning about the local flora and fauna (6%).

Segment 6 had 65% experiencing the track for the first time and 89% in employment (72% fulltime and 17% part-time). This segment also had the highest satisfaction levels for completely achieving the motivators of: personal goals (66%) and relaxing (62%).

Table 3:
Differences between motivational segments (in % of segments, only extreme answer options given)

		Segment						p-value	corr. p
		1	2	3	4	5	6		
First Experience of Track?	Yes	71	34	56	55	69	65	0.001	0.026
Wilderness Perception	Not Wilderness	12	19	7	8	3	4	0.000	0.014
	Pure Wilderness	0	5	5	15	7	6		
Satisfaction with:	Not At All	3	7	6	0	2	0	0.000	0.000
Personal Goals	Completely	31	25	45	66	33	66		
Satisfaction with:	Not At All	2	4	4	0	0	0	0.000	0.000
Climb Mt Kosciuszko	Completely	63	46	67	87	82	82		
Satisfaction with:	Not At All	2	11	20	3	4	5	0.000	0.000
Learn Flora/Fauna	Completely	11	15	11	22	6	16		
Satisfaction with:	Not At All	2	7	7	2	0	3	0.001	0.028
Encounter Wilderness	Completely	20	13	18	39	25	29		
Satisfaction with:	Not At All	3	15	5	3	0	2	0.000	0.000
New/Different Experience	Completely	28	9	34	47	27	38		
Satisfaction with:	Not At All	6	0	4	2	1	1	0.000	0.000
Relax	Completely	15	59	35	61	55	62		
Satisfaction with:	Not At All	0	4	15	0	0	0	0.000	0.000
Get Away	Completely	16	51	21	56	44	52		
Satisfaction with:	Not At All	0	2	0	0	0	0	0.000	0.000
Enjoy Outdoors	Completely	52	66	35	77	61	71		
Satisfaction with:	Not At All	17	25	18	10	11	8	0.000	0.000
Solitude	Completely	3	7	13	32	17	17		
Satisfaction with:	Not At All	5	11	17	2	4	5	0.000	0.000
Face Challenges	Completely	15	7	20	35	18	31		
Employment Status	Full time	57	81	54	68	77	72	0.000	0.000
	Part time	10	9	13	22	7	17		
	Retired	10	3	2	2	3	2		
	Student	21	5	21	7	6	5		
	House wife/husband	0	0	2	1	2	4		
	Unemployed	1	2	8	0	6	0		

Significant differences could be determined between the resulting segments with respect to *wilderness perceptions*. Segment 1 (The Outdoor Lovers) and Segment 2 (Along for the Ride) include the highest proportion of members who did not perceive Mt Kosciuszko as wilderness. Among the Outdoor Lovers actually not a single one classified this particular hike as pure wilderness. The highest proportion of members who do perceive Mt Kosciuszko as pure wilderness can be found in Segment 4 (among Passionate Soloists). It can consequently be concluded that significant differences in perceptual wilderness exist between the constructed market segments based on motivations to climb Mt Kosciuszko. This data set is limited in the amount of background information on tourists, but this findings clearly points into a direction where future research would be very interesting: what factors determine who perceives certain areas as wilderness or not?

Conclusions, limitations and future work

Based on prior research investigating the main motivations of tourists to climb Mt Kosciuszko, psychographic segments of tourist have been constructed in order (1) to gain more understanding of the market structure local tourism organisations face in order to enable them to customise marketing messages at target segments and thus communicate their advertising messages more effectively, and (2) investigate whether these segments differ in their wilderness perceptions of Mt Kosciuszko.

Six segments were found to capture the market structure in the most useful way from a managerial point of view. These segments differed not only in their motivations to climb Mt Kosciuszko, but also in numerous additional characteristics, such as their prior experience with Mt Kosciuszko, their wilderness perception, their satisfaction with different components of the track and their occupation. These results add to the perceived wilderness research by supporting the notion that wilderness is not an objective dimension, but rather perceived differently by different individuals. While the reasons for such differences are of scientific interest, the managerial value of this knowledge lies in customising marketing messages. For instance, trying to convince Outdoor Lovers that they should visit Mt Kosciuszko to experience pure wilderness is not only unlikely to be very effective, it would also lead to high dissatisfaction once an Outdoor Lover experiences Mt Kosciuszko. Additionally visitor management strategies may be better focused to the needs of the six segments identified here e.g. track and usage information for the outdoor lovers seeking solitude, interpretive signage about flora and fauna for the passionate soloists and information on facilities and resources for those along for the ride. Further research will assist in the ongoing development of managerially useful segments.

Future work needs to capture more background variables relevant to marketing, for instance what sources of travel information these motivational groups use. If there are specific patterns in their use of information, these sources could be used to convey targeted messages about the national park to attract customers but also help create a realistic view of what to expect in order to assure high satisfaction levels during the actual experience. Additional factors that could be incorporated include differences of motivations at other times of the year – both over public holidays (such as New Year or Australia Day) and midweek visitation outside of public holidays and school holidays which would potentially access a broader and/or different sample than is represented here. Other factors that could be explored include previous experience of climbing Mt Kosciuszko and other trails in the area, the mode of transport to the area, length of stay, summer and winter visitation as well as the role of advertising and other media reports on the area.

REFERENCES

- BLAMEY, R. K. & BRAITHWAITE, V. A., (1997) A Social Values Segmentation of the Potential Ecotourism Market, *Journal of Sustainable Tourism*, 5(1), 29-45.
- BORRIE, W. T., & ROGGENBUCK, J. W. (2001). The Dynamic, Emergent, and Multi-Phasic Nature of On-Site Wilderness Experiences. *Journal of Leisure Research*, 33(2), 202-228.
- BUCHTA, C., DIMITRIDOU, E., DOLNICAR, S., LEISCH, F. & WEINGESSEL, A., (1997). *A Comparison of Several Cluster Algorithms on Artificial Binary Data Scenarios from Travel Market Segmentation*. Working Paper # 7, SFB 'Adaptive Information Systems and Modelling in Economics and Management Science', Vienna.
- BUCKLEY, R. (2000). *Wilderness in Australia: What's Happening in a World Context*. Paper presented at the Wilderness science in a time of change conference— Volume 2: Wilderness within the context of larger systems, Missoula, MT.

CESSFORD, G. & DINGWALL, P. (2001). Wilderness and Recreation in New Zealand. In G. Cessford (Ed.), *The State of Wilderness in New Zealand* (pp. 35-42). Wellington, NZ: Department of Conservation.

CRONBACH, L.J., 1950. Further Evidence on Response Sets and Test Design. *Educational and Psychological Measurement* 10, 3-31.

DAWSON, C. P., & WATSON, A. W. (2000). *Measures of Wilderness Trip Satisfaction and User Perceptions of Crowding*. Paper presented at the Wilderness Science in a Time of Change, May 23-27, 1999 – Volume 4, Ogden, UT.

DEPARTMENT OF ENVIRONMENT AND CONSERVATION. (2004). *2004 Draft Plan of Management: Kosciuszko National Park*. Queanbeyan, NSW: Parks and Wildlife Division.

DOLNICAR, S. & LEISCH, F. (2001). Knowing What You Get - a Conceptual Clustering Framework for Increased Transparency of Market Segmentation Studies. *Abstract Proceedings of the Marketing Science*, p. 88.

DOLNICAR, S. (2002). Review of Data-Driven Market Segmentation in Tourism. *Journal of Travel & Tourism Marketing*, 12(1), 1-22.

EDGINTON, C. R., JORDAN, D. J., DEGRAFF, D. G. & EDGINTON, S. R. (1998) *Leisure and Life Satisfaction: Foundational perspectives*, 2nd edition, Boston, MA, WCB/McGraw-Hill.

FITZHERBERT, S. & EGAN, F. (Eds.). (1998). *Kosciuszko National Park*. Hurstville, NSW: NSW National Parks and Wildlife Service.

FORMANN, A.K. (1984). *Die Latent-Class-Analyse: Einführung in die Theorie und Anwendung*. Weinheim: Beltz.

FROCHOT, I. and MORRISON, A. M. (2000). Benefit segmentation: A review of its application to travel and tourism research. *Journal of Travel & Tourism Marketing*, 9(4), 21-45.

HALL, C. M., & HIGHAM, J. E. S. (2000). Wilderness Management in the Forests of New Zealand: Historical development and contemporary issues in environmental management. In X. Font & J. Tribe (Eds.), *Forest Tourism and Recreation* (pp. 143-160). Wallingford, UK: CABI Publishing.

HIGHAM, J. E. S. (1997). Sustainable Wilderness Tourism: Motivations and wilderness perceptions held by international visitors to New Zealand's backcountry conservation estate. In C. M. Hall, J. Jenkins & G. W. A. Kearsley (Eds.), *Tourism Planning and Policy in Australia and New Zealand: Cases, Issues and Practice* (pp. 75-85). Sydney, NSW: Irwin Publishers.

HIGHAM, J. E. S. (1998). Sustaining the Physical and Social Dimensions of Wilderness Tourism: The perceptual approach to wilderness management in New Zealand. *Journal of Sustainable Tourism*, 6(1), 26-51.

HIGHAM, J. E. S., KEARSLEY, G. W., & KLISKEY, A. D. (2000). *Wilderness Perceptions Scaling in New Zealand: An analysis of wilderness perceptions held by users*,

nonusers and international visitors. Paper presented at the Wilderness science in a time of change conference— Volume 2: Wilderness within the context of larger systems, Missoula, MT.

INDEPENDENT SCIENTIFIC COMMITTEE. (2002). *An Assessment of the Values of Kosciuszko National Park: Interim Report*. Sydney, NSW: National Parks and Wildlife Service.

JOHNSTON, S. W., & GROWCOCK, A. J. (2005). *Visiting the Kosciuszko Alpine Area: Visitor numbers, characteristics and activities*. Gold Coast, Qld: Sustainable Tourism CRC.

KAMPEN, J., SWYNGEDOUW, M. (2000). The Ordinal Controversy Revisited. *Quality & Quantity*, 34(1), 87-102.

KEARSLEY, G. W. A. (1997). Managing the Consequences of Over-Use by Tourists of New Zealand's Conservation Estate. In C. M. Hall, J. Jenkins & G. W. A. Kearsley (Eds.), *Tourism Planning and Policy in Australia and New Zealand: Cases, Issues and Practice* (pp. 87-98). Sydney, NSW: Irwin Publishers.

KEARSLEY, G. W. A. (2000). Balancing Tourism and Wilderness Qualities in New Zealand's Native Forests. In X. Font & J. Tribe (Eds.), *Forest Tourism and Recreation* (pp. 75-90). Wallingford, UK: CABI Publishing.

KEARSLEY, G. W., COUGHLAN, D. P., HIGHAM, J. E. S., HIGHAM, E. C., & THYNE, M. A. (1998). *Impacts of Tourist Use on the New Zealand Backcountry*. Dunedin, NZ: Centre for Tourism, University of Otago.

LAWSON, S. R., & MANNING, R. E. (2002). Tradeoffs Among Social, Resource, and Management Attributes of the Denali Wilderness Experience: A Contextual Approach to Normative Research. *Leisure Sciences*, 24, 297-312.

MANNING, R. E. (2003). What to Do About Crowding and Solitude in Parks and Wilderness? A Reply to Stewart and Cole. *Journal of Leisure Research*, 35(1), 107-118.

MARTINETZ, T., & SCHULTEN, K. (1994). Topology representing networks. *Neural Networks*, 7, 507-522.

MAZANEC, J., GRABLER, K., & MAIER, G. (1997). *International City Tourism: Analysis and Strategy*. Pinter/Cassel.

MCLEAN, D. D., HURD, A. R. & ROGERS, N. B. (2005) *Kraus' Recreation and Leisure in Modern Society*, 7th edition, Sudbury, MA: Jones and Bartlett Publishers.

MULES, T., FAULKS, P., STOECKL, N. & CEGIELSKI, M. (2002) *The Economic Values of Tourism in the Australian Alps: Draft Report*. Canberra, ACT, University of Canberra.

O'NEILL, J. (2002). Wilderness, cultivation and appropriation. *Philosophy and Geography*, 5(1), 35-50.

STEWART, W. P. & COLE, D. N. (2001). Number of Encounters and Experience Quality in Grand Canyon Backcountry: Consistently Negative and Weak Relationships. *Journal of Leisure Research*, 33(1), 106-120.

VEAL, A. J. & LYNCH, R. (2001) Australian Leisure, 2nd edition, Frenchs Forest, NSW, Pearson Education.

WATSON, A. W. (2000). *Wilderness Use in the Year 2000: Societal changes that influence human relationships with wilderness*. Paper presented at the Wilderness Science in a Time of Change, May 23-27, 1999 – Volume 4, Ogden, UT.

WATSON, A. W. (2004). Human Relationships with Wilderness. *International Journal of Wilderness*, 10(3), 4-7.

WEDEL, M.; KAMAKURA, W.A. (1998). Market Segmentation - Conceptual and Methodological Foundations. Kluwer Academic Publishers, Boston, MA, USA, 1 edition.

WILDERNESS ACT, New South Wales State Government (1987).

WORBOYS, G. L. & PICKERING, C. M. (2002). *Managing the Kosciuszko Alpine Area: Conservation milestones and future challenges*. Gold Coast, Qld: Sustainable Tourism CRC.

YOUNG, M. (2000). *The Aboriginal People of the Monaro*. Hurstville, NSW: NSW National Parks and Wildlife Service.